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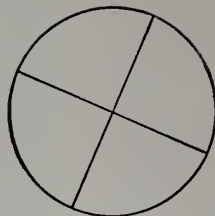
Harvard Medical Alumni Bulletin

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Benzedrine Sulfate—rational and accepted

BENZEDRINE SULFATE, by safely depressing the overweight patient's appetite, ordinarily curbs excessive eating. Lowered caloric intake and loss of weight naturally follow. Hence, Benzedrine Sulfate therapy is medically sound and highly effective.

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¹Harris, S. C.; Ivy, A. C., and Searle, L. M.: THE MECHANISM OF AMPHETAMINE-INDUCED LOSS OF WEIGHT: A Consideration of the Theory of Hunger and Appetite, J.A.M.A. 134:1468 (Aug. 23) 1947.

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are straight.**

The boy's are not.



The rooster got plenty of vitamin D.

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FRANCIS D. MOORE, '39

White Star



Medical School Notes



MOSELEY PROFESSOR

A 34-year-old surgeon has been named Surgeon-in-Chief of the Peter Bent Brigham Hospital and Moseley Professor of Surgery at the Harvard Medical School.

He is Dr. Francis Daniels Moore, at present Assistant Professor of Surgery at Harvard, Assistant Surgeon at the Massachusetts General Hospital, Consulting Surgeon at the Massachusetts Eye and Ear Infirmary and Member of the Associate Staff of the Palmer Memorial Hospital.

In the Moseley Professorship, Dr. Moore falls in line with a group of famous surgeons who have occupied the chair—Dr. John Collins Warren (1899-1907), Dr. Maurice Howe Richardson (1907-1912), Dr. Harvey Cushing (1912-1932) and Dr. Elliott Carr Cutler (1932-1947). Both Dr. Cushing and Dr. Cutler served also as Surgeon-in-Chief of the Peter Bent Brigham Hospital.

The announcement of Dr. Moore's appointment was made jointly by the Trustees of the Peter Bent Brigham Hospital and by the President and Fellows of Harvard College.

Dr. Moore has done distinguished research work in several areas of surgery. His interests lie in the field of General Surgery and in the relation of the autonomic nervous system to the stomach and intestine. His research activities have centered on gastro-intestinal surgery with particular reference to nerve-cutting operations in disease of the stomach, thyroid physiology and cellular biochemistry. During and after the war Dr. Moore carried out studies on the care of burned patients, as a member of a group of doctors working under the Office of Scientific Research and Development. Much of this work was accomplished through the use of radioactive isotopes, a subject of great importance since the development of atomic

energy and a field of endeavor with which he had familiarized himself while working as a Research Fellow of the National Research Council in 1941-1942 at the Huntington Hospital. In the past two years Dr. Moore has been studying other surgical problems by these same methods. His latest scientific paper discusses "The Use of Isotopes in Surgical Research."

He was born in Evanston, Illinois, on August 17, 1913. He graduated from Harvard College in 1935, and from the Harvard Medical School in 1939. Since then, he has served in various surgical posts at the Massachusetts General Hospital. He joined the Harvard Medical Teaching Staff in 1941, and became Assistant Professor of Surgery in 1947. He is married and has four children. He lives in Brookline.

THE BOYLSTON MEDICAL SOCIETY

On a January evening in 1811, probably in the rooms over White's Apothecary Shop at what is now 400 Washington Street, a group of Harvard Medical Students gathered for the first meeting of the Boylston Society. The neatly inscribed accounts of George W. May, first treasurer of the Society, are the only extant records of that meeting. On Wednesday evenings in 1948 student members of the Boylston Society still meet together. As it has for one hundred and thirty years, the Society continues to play an important role in the undergraduate life of the Harvard Medical School.

The act of incorporation formulated in 1823 states that the purpose of the Boylston Society shall be to promote "emulation and inquiry" among its members. From the first recorded meeting to the present, the programs of the Society have centered around the presentation by mem-

bers of original dissertations on subjects of medical interest. This custom doubtless derives from the influence of Ward Nicholas Boylston, whose name the Society bears. In his will, he bequeathed a portion of his estate to the "Boylston Medical Association" with the provision that "one half of said stock, or the sum of \$25 annually therefrom shall be appropriated as premiums for the author or authors of the most approved medical dissertations as is now paid by me to said corporation."

It is interesting to speculate on the origins of Ward Nicholas Boylston's interest in a Medical Society. He himself was not a physician. Indeed, he was not even a Boylston. His original name was Ward Hallowell. In 1770 at the request of his maternal uncle Nicholas Boylston, he changed his surname to Boylston, adding Nicholas to his Christian name. One year later he inherited his uncle's estate, and shortly thereafter made a 27 year "grand tour" of Europe. Ward Nicholas Boylston's maternal great uncle was Zabdiel Boylston. It was this same Zabdiel Boylston who was forced to hide behind a panel over his fireplace for two weeks during the small pox epidemic of 1721. The populace, infuriated by the attempts of Zabdiel to stem the epidemic by the procedure of inoculation, threatened to kill him. It is perhaps this heritage which led Ward Nicholas Boylston to sponsor a medical society.

Perusal of the early records of the Boylston Society provides an informative and often amusing account of the medical interests of the period. On November 20, 1829, following a discourse on Sympathy by one Mr. Peny, the Society discussed the question whether "nutritive substances enter the circulation under any circumstances except by the Lacteals and Thoracic Duct." They concluded that "no other means of conveying nutriment was provided by nature although some means of doing this by art were mentioned."

On November 27, of the same year the

group discussed "whether increased or diminished action of the sanguiferous system be the proximate cause of inflammation." It was the general opinion that "inflammation is accompanied if not caused by increased action in the small vessels."

A student discussing blood concluded that "the uses of the serum are as yet unknown" and that the "red globules" being in a fluid state, "are not essential parts, nor necessary to the growth of the parts of the body." An acrid debate on the etiology of cholera, then raging in Europe, occupied an hour and a half of one meeting. When the final vote was taken Henry I. Bowditch stood alone in favor of contagion.

One protesting student discoursed on the subject "Intricacies, Doubts, and Obscurity in Medicine." He complains, "If I would treat of inflammation what is it? No one can tell. If I would treat of fever, it is intimately connected with inflammation, and this we do not understand. If I would take up peritonitis, it is inflammation of the peritoneum. And so with almost all diseases and even all subjects connected with medicine. But into this thick darkness light is evidently breaking and a greater degree of certainty is promised for a future day. In the meantime there is cause for encouragement and confidence that merit will be appreciated and rewarded. But considering the peculiar state of medical science at present, and my own peculiar incapacities, I hope to be excused from giving a dissertation upon any particular subject."

The pattern of meetings today is little different. The Society meets almost weekly throughout the year in Vanderbilt Hall to hear treatises prepared by members on subjects of medical moment. Discussion of the paper is usually led by one or more members of the Faculty who are interested in the problem under discussion. This year dissertations on such diversified subjects as "The Pathogenesis of Edema in Acute Glomerulo-Nephritis," "Paget's Disease," "Urinary Pigments",

"Nucleo-proteins", and "The Role of the Adrenal Cortex in Hypertension", have been presented.

Meetings are preceded by cocktails and dinner in Vanderbilt Hall. These gatherings provide a needed opportunity for third and fourth year men, separated by their work in various hospitals, to meet.

Recent interest in the origins of the constitution of the Boylston Society has led to the formulation of a new constitution. A committee headed by L. H. Smith, Jr., HMS IV and Vice-President of the Society, drew up the new document. It preserves the spirit and much of the wording of the original constitution. Dr. Burwell, 1948 President of the Boylston Society, has encouraged and aided this attempt to clarify anew the aims and procedures of the organization. The traditional force of the Boylston Society for the advancement of undergraduate medical education at Harvard is still strong.

HENRY ASBURY CHRISTIAN AWARD

On February 17, the Annual Henry Asbury Christian Prize was presented to Lloyd Hollingsworth Smith, Jr., of the

present fourth year class. The members of the Harvard Chapter of the Alpha Omega Alpha Society gathered in the Faculty Room of Building A to hear Dr. Samuel Levine make the award in behalf of Dr. Christian, who was unable to attend.

The prize of \$100.00 is given annually to a fourth year student who shows great promise in medicine. In addition, Dr. Levine gave Mr. Smith a copy of his book on Coronary Thrombosis. Following the ceremony, Dr. Fitz commented on some of the portraits hung in the Faculty Room for the benefit of the students who rarely have the opportunity of viewing them.

Mr. Smith's Medical School career has been distinguished. He was elected to the Alpha Omega Alpha Society in his third year. He was president of A.O.A. in 1947-48 and is now president of the Boylston Society. During the year of 1947-48, he was a Life Insurance Student Research Fellow in Physiology. His researches during Medical School have been concerned with the pharmacology of atabrine and cutaneous hyperemia in exercise. Mr. Smith will intern at the Massachusetts General Hospital.



Enzymes and Headlines

SOME PROBLEMS OF REPORTING MEDICINE

Lester Grant

A newspaperman reporting science is likely, from time to time, to find himself attempting to answer more questions than he asks.

To the reporter—at least to this one—the fundamentally important action of, say, enzymes in the human body is a mysterious mechanism which calls for considerable explanation.

But to the scientist, the newspaper and the way the newspaper goes about writing science are equally bewildering and more often than not make even less sense than many of the anomalies on the frontiers of medical research.

The scientist is likely to ask and indeed frequently does ask, these questions:

1. If it takes ten or fifteen or twenty reporters to make an acceptable and competent sports department—with some of the reporters specializing in golf, hockey, baseball, horse racing and thoroughbred dogs—how is it possible to cover science—physics, biochemistry, medicine, astronomy, among others—with no specialist or perhaps only one or two reporters assigned to the job?

2. Is there really an explanation for the affection shown by some newspapers—notably the Hearst press—for the anti-vivisection movement? On what possible grounds could a person be taken in by such nonsense? What possible motive is there behind anti-vivisection propaganda?

3. If the science writer insists on interpreting certain results of, say, medical research, is it not reasonable to expect him to ask the scientists if the interpretation is correct?

The second question—on the anti-vivisectionists—is one this reporter would not attempt to answer. It is not even clear where the answer can be found, except perhaps by writing to Mr. Hearst and hoping for the best. Presumably this has been tried before, but on the odd chance that it hasn't been tried, one can suggest

the following framework for such a letter:

Dear Mr. Hearst:

"Would you be so kind as to tell me why you support the anti-vivisectionists?"

"I mean . . . would you give me the real reason? I have heard anti-vivisectionists argue that they are humane but I am sure that a man of your practical inclination would not fall for that. Think of all the blue babies Dr. Blalock saved after first practicing his surgery on dogs. Obviously a person who would let those kids die can't turn around and argue that he is humane. Or a person who would expect a doctor to experiment on babies—instead of dogs—hardly makes sense when he shouts about his benevolence.

"So there must be another reason—one you have kept from the public—for your views on this subject, and I'm curious enough to write to you and ask what it is. I am particularly interested in your case, since I understand you are living to a ripe old age, and (as you know) many years have been added to man's life span as the result of animal experimentation showing the role of bacteria in the cause of infectious diseases and methods of preventing these diseases.

"Someone told me the other day that the reason you support the anti-vivisectionists is that you have what almost amounts to a psychopathic hatred of scientists in general, but I don't believe this—it sounds pretty silly to me—unless you have been subverted by 'snake charmers, astrologers and faith healers. If you have, and if you wouldn't mind saying so, I'd appreciate an answer, for it will clear up a number of points concerning the strange animosity you exhibit toward animal experimentation. Very truly yours, . . ."

On the third question—interpretation of results by science writers—the simplest answer is that it is reasonable to expect the reporter at least to quote his subject

correctly, and, as a matter of fact, the reputable science writers—a dozen, perhaps—do just that.

The first question—the problem of specialization—reflects a continuing and in some respects lamentable drift toward specialization. When one today sets out to study zoology, he is soon confronted by a formidable host of experts: the anatomist, morphologist, histologist, cytologist, physiologist, nutritionist, embryologist, geneticist, pathologist, parasitologist, ecologist, evolutionist, just to name a few.

But stating the problem hardly solves it. The establishing among newspapers and magazines of so-called science departments, or expanding those already in existence is a problem which raises enormous complications, particularly for smaller newspapers. But the frequent parallel which scientists draw between the high degree of specialization in sports writing and the virtual lack of it in science writing raises some interesting points.

For one thing, it may indicate that scientists read the sports pages, but all the evidence is not yet in as to how the public reacts to large doses of science writing, no matter how simply written. Yet when one examines some of the Monday morning football illustrations, explaining exactly what happened on Saturday, one may be led to the conclusion that the off-tackle play can get almost as complicated and certainly twice as dull. The chances are that if a newspaper reader can understand the fine points of football's T formation, the way it is explained these days, he can understand almost anything, including the biochemical importance of glycogen.

This brings up some rather complicated questions as to how the reporter, who is likely to have a had reputation among scientists, goes about dealing with scientists and constructing stories which will be interesting, clear, and reasonably accurate (within the permissible limits of simplification), without at the same time running to so many words that their length rules them out as newspaper, if not as magazine, stories.

A year ago, Joseph Herzberg, the city editor of the Herald Tribune, and this writer set out to examine this and related questions to see if we could arrive at some constructive conclusions as to the purpose, form and other points relating to the coverage of medicine in the press.

How, for example, does the writing of medicine differ, if at all, from the writing of other stories in the popular publications? Can any satisfactory generalizations be made about medical writing without either belaboring the obvious or becoming so highly theoretical that we as newspapermen lose sight of our primary function of informing the public of news developments? Is it possible to overcome objections of many doctors about popular reporting of medicine and still write medicine so that the stories are clear and interesting to the general public? Or is the gap between what the doctor says and the way it is reported so wide that it cannot be bridged, to the mutual satisfaction of the doctor and the writer?

Out of this inquiry grew, several months later, a rather extensive memorandum to the New York Academy of Medicine, a few of the points of which will be summarized here. One runs the risk, in any such undertaking, of pontificating about problems the solutions for which are not yet clear. Certainly in many of the questions we covered, the conclusions were neither original nor startling. We were trying to state the problem so that it would make sense to doctors, as well as ourselves. A rough breakdown of some of the points follows:

1. Medical ethics.

Some doctors protest vigorously (some protest too much) about the use of their names in stories, particularly the constant repetition of the name through the story, on the grounds that this amounts to personal glorification and such usage can become a device whereby charlatans promote their own trade. Many doctors would prefer to remain anonymous—or say they would—as far as newspaper stories are concerned.

This is really a dangerous line of thinking, for a doctor's name in a story is some protection for the public, is at least a check against careless reporting. Without having to worry about where he got his information, the reporter might be led to the following fantasy: "A cure for cancer has been discovered, it was learned last night. This cure involves the drinking of a quart of water a day, elimination of pepper from the diet, and strict bed rest for nineteen years." If a doctor protested against the spreading of such nonsense and demanded to know the source of the information, the writer might stand on his professional ethics, so called, and refuse to give the name of his informant. Such hyperbole may seem out of reach, even of some of the less responsible newspapers, but one has only to track down the sources of some of those "reliable" reports coming from "well informed spokesmen" to appreciate the risk of doing this sort of thing in science stories.

If it is an aggravation for a doctor to find his name mentioned in every paragraph of a newspaper story, then perhaps the simplest thing to do is to mention it once and let it go at that. The point is not that the reporter necessarily wants to use the doctor's name, but the story, in most cases, lacks authority without it.

2. Bibliography.

The failure of newspapers to distribute credit, where credit is due, is one of the most frequent complaints which doctors—and scientists in general—level at the press. (In one case, the doctor complains because his name is in the story; in another he complains because there aren't enough names in the story.) The scientist argues that since his own work is bound up with the work of his predecessors, and since this is a point he usually underscores in any report of his work, it is reasonable to expect the newspaper account to credit the source of his ideas.

Some scientists are so insistent on this that one gets the impression that any mention of, say, oxygen, should be traced back to the discoveries of Priestley and Scheele.

It wouldn't take much of this sort of thing to make the newspaper read like text books, which is what some scientists would prefer. It is interesting, however, that even a casual mention in a story of where the doctor got his ideas, or the fact that he drew on "previous experiments of a similar nature conducted by So-and-So at such-and-such a place" makes the doctor infinitely more willing to discuss his work and explain his objectives. It also adds more words to a story and more type to the overset galleys. Yet, perhaps if this sort of thing can be done briefly and simply, it will serve a useful purpose. But one cannot hope to write a definitive history of science in every half-column account of a medical development.

3. Qualification and accuracy.

Doctors argue that newspapers too frequently fail to make a distinction between a treatment and a cure and point—justifiably—to the confusion wrought by popular accounts of the effectiveness of streptomycin in the treatment of tuberculosis, just to name one example. Thousands of persons die annually of tuberculosis and perhaps other thousands wonder why this is so in the light of the new drugs. With faintly concealed exasperation, the doctor wonders why the science writer can't follow some such simple procedure as this: Having stated that the drug will work—or may work—under certain conditions, then state that it will not work—or may not work—under others; state the second point quickly—and high in the story—so that there will be no chance for confusion in the reader's mind. In many ways, such an argument is unanswerable and the only defense for the press is, again, that among the more responsible science writers, such a procedure is generally followed.

4. The Doctor's Part.

Whether the doctor approves or not, or thinks that the trend is good or bad, the fact is that newspapers are carrying medical stories in increasing volume. Therefore, it would appear to a reporter that the question facing the doctor is not how to keep medicine out of the newspap-

er but how to get it in so that it makes sense and conforms to reasonable standards of accuracy. This is such an elementary point to the reporter that he finds himself completely confounded by either the indifference or the open hostility of some members of the medical profession.

The doctor is likely to assert that if he gives the reporter the story, the reporter will probably get it wrong; or, if the reporter does write it accurately, the doctor's colleagues will frown on the publicity. Such a disastrous generalization can only lead one to the conclusion that while newspapermen may need considerable education in science, the medical profession needs at least as much briefing in public relations.

Many doctors complain that newspapers spend too much of their time and precious white space discussing seven-day medical wonders which turn out either to be failures on the eighth day or to be a considerable distance from acceptable treatment. There is evidence to support such an assertion (reports on the use of nitrogen mustard in the treatment of cancer were overplayed, to cite one case in point), but the doctor also bears some responsibility here. Many doctors, in venting their spleen on newspaper coverage of medical matters, complain that the newspapers leap at superficial, spectacular, unproved techniques instead of confining themselves to accounts of sound, proved developments. When this happens, this writer usually asks the doctor exactly what he means and in most cases it turns out that he does not know what he means. What he probably means is that the reported ulcer cure (even though it may have been reported accurately) does not work. Yet the doctor himself may have listened as eagerly as the writer to the account of the new development. It would appear, then, that one of the things the doctor is complaining about is irresponsible doctors, not necessarily irresponsible reporters.

If this judgment makes no sense, then the alternative is clear: medical writing should be confined, if it is to appear anywhere, to the medical journals and should never be touched by the popular publica-

tions. This is a rather simple way out of the problem and one that would save responsible newspapers considerable trouble and expense. If on this basis, doctors think they can educate the public about medicine and science, as some newspapers are doing, or can raise millions of dollars for medical research, hospitals and other facilities, or can counteract the vicious propaganda of the anti-vivisectionists, or stress the necessity of vaccination in certain situations, then the doctors know an important secret about public relations which they have not yet let the newspapers in on.

When one circulates among scientists today, one is struck by a remarkable change in the thinking of scientists about newspapers and popularizations of science. For reasons which are not quite clear, scientists appear much more willing today to discuss their work and the impact of science on the community than they were, say, ten years ago. One cannot be sure that the turmoil attending the discovery of the atom bomb—with all of its terrible implications for the future—is solely responsible for this apparent change. Whatever the reason for the scientist's seeming increasing willingness to talk to reporters, the result is that newspapers are carrying more science stories than ever before. It is true that many of these stories are overdrawn, distorted, occasionally inaccurate (even by the loosest definition of accuracy), contain errors of omission and too frequently explain that a new development has certain possibilities without also explaining that it has certain limitations. Yet some of the science writing—and an increasing amount of it—in newspapers and magazines is of high quality: interesting, clear, accurate. Many scientists are willing to concede this point. And one reason it is so, is because the scientists have made themselves more accessible. This is particularly true in the fields of chemistry and physics, not quite so true in the field of medicine. If the atom bomb has helped to accomplish this, perhaps it has served at least one useful purpose.

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Harvard Medical Society Meetings

MEETING NO. 4

The January meeting of the Harvard Medical Society was held at the Massachusetts General Hospital. The program was arranged by the Department of Psychiatry at the Massachusetts General Hospital. Dr. Finesinger presided.

The meeting began at 4:30 P.M. The afternoon session included talks by Dr. Finesinger and Dr. Lindemann. Following supper the Society reconvened to hear a series of three papers on physiological studies relevant to psychiatry.

Dr. Jacob E. Finesinger discussed *Problems in Psychotherapy*. He described a standardized interviewing procedure. The technique is based on the rigid maintenance of minimal activity on the part of the interviewer. By means of a carefully graded series of responses designed to show interest when active material is mentioned by the patient, the doctor attempts to channel the interview toward important topics. Dr. Finesinger pointed out the advantages which standardization of interviewing procedure offers. These include minimizing of interjection of the physician's personality into the interview, elimination of as many variables in the environment of the interview as possible, and the avoidance of inept errors by untrained interviewers in providing the patient with necessary though potentially dangerous insight.

Dr. Eric Lindemann discussed *Procedures in Psychotherapy*. He emphasized attempt at integration between social sciences and clinical psychiatry now in progress at the Massachusetts General Hospital and Harvard University Department of Psychology and Sociology. He analyzed several cases from the social point of view, emphasizing the role of interaction between personalities in the pathogenesis of psychiatric disease.

Drs. Frederick C. Bartter, Gregory Pinchus, and Hartley C. Shands presented the first paper of the evening. Dr. Shands described studies on adrenal cortical function in psychoneurotics. They applied

the A.C.T.H. (adreno-cortico-tropic hormone) test developed by Dr. George Thorn and Dr. Peter Forsham at the Peter Bent Brigham Hospital to a series of psychoneurotic patients. The decrease in eosinophil count produced by the drug was indistinguishable from that seen in normal subjects. The increase in the uric acid creatinine ratio was slightly less than the normally observed rise. The difference was too slight to be of significance. Further work now in progress is necessary before alteration in adrenal cortical function in psychoneuroses can be accepted as fact. Dr. Altschule emphasized the variability in the data in the discussion after the paper. Dr. Forsham suggested that S hormone itself (ie. the 11-oxy cortico steroids produced by the adrenal cortex) be given to these patients to rule out the unlikely possibility that the eosinophils of the psychoneurotic do not respond to adrenal cortical hormone as do normal cells.

H. W. Miles and J. H. Tucci presented observations on the *Levels of Consciousness in Pentothal Anesthesia*. They correlated changes in behavior and clinical status of the subjects with alterations in the EEG pattern. The EEG records were subjected to study with a frequency analyzer. The sudden appearance of predominantly large slow waves in the EEG upon loss of consciousness was one of the most striking observations. These waves disappeared upon return to consciousness.

Mary A. B. Brazier, Ph.D. presented the final paper of the evening. She reviewed evidence accumulated in collaboration with Dr. Finesinger regarding some physiological mechanism underlying the electrical activity of the brain. Her work suggested that the electroencephalogram represents the electrical activity, not of the cortex alone but of the resultant at the cortex of reverberations in circuits between the thalamus and cortex. Data were discussed which indicated the dependence of the alpha rhythm on the normal functioning of cell stations in both the thala-

mus and the cortex and on the integrity of the axonal connections between them. Examples were shown of the effect on the alpha rhythm of the interfering with the proper functioning of these units. Agents available in human physiology for such studies are anoxia, hypoglycemia, sleep and anaesthesia. Results obtained with each of these agents were reported and compared with other conditions of impaired consciousness.

MEETING NO. 5

The Harvard Medical Society met in the amphitheater of the Beth Israel Hospital on the evening of February 10. Dr. Blumgart presided.

Dr. Richard Hoffman presented the first paper on *The Effect of Vitamin A and Carotene Deficient Diet on Psoriasis Vulgaris*. In characterizing the clinical manifestations of the disease, Dr. Hoffman mentioned the reduced incidence, indeed the frequent spontaneous cures, observed in the starving population of Europe. This fact, coupled with the known effect of vitamin A deficiency in promoting keratinization, led him to investigate the possible efficacy of vitamin A deficient diets in the treatment of psoriasis. He found that restriction of the vitamin A and carotene intake to a maximum of 150 to 300 units per day resulted in complete clearing or marked improvement in 25 out of 29 patients with proven psoriasis. Restriction of preformed vitamin A combined with administration of mineral oil to decrease absorption of carotene caused equally good response in 5 out of 7 patients. The first signs of improvement were noted in 4-20 weeks while marked improvement was seen in 8-40 weeks in all responsive patients. The fact that 16 out of 23 successfully treated patients showed recurrence of lesions upon resumption of a normal diet lends further force to the argument that a defect in the reactive process of keratinization may play a role in the pathogenesis of psoriasis.

Dr. Arnold Seligman made a fundamental contribution in the second paper of the evening. He discussed a new tech-

nique for *Histochemical Identification of Cellular Enzymes*. The basic reaction originally employed by Menten et al involves the conversion of beta naphthol to a colored dye by combination with a suitable diazonium salt. Dr. Seligman has simplified the method by the use of stabilized diazonium compounds. Thus the calcium phosphate salt of beta naphthol can be used to detect the presence of alkaline phosphatase in a tissue. The enzyme splits the salt to yield beta naphthol which then reacts with the diazonium salt to form a colored compound. It is necessary to use the calcium phosphate salt of alpha naphthol in order to test for acid phosphatase since this enzyme does not split the beta naphthol derivative. Dr. Seligman demonstrated the technique by staining a section of rat kidney for alkaline phosphatase during the talk. He pointed out how a modification of the method could be used to identify other enzymes, eg. sulfatase, esterases, peptidase, and beta glucuronidase. He also mentioned the clinical value of the technique in the determination of the primary site of ovarian carcinoma. Malignancies of ovarian origin contain alkaline phosphatase whereas gastric carcinomas do not. A metastatic carcinoma devoid of the enzyme is probably not ovarian in origin. (Krukenburg tumor).

Dr. Howard Frank presented data derived from *Recent Studies on Peritoneal Irrigation for Acute Renal Failure* in the third paper of the evening. He stated that with care it was possible to control electrolyte balance in these patients. Three of the most refractory biochemical problems were mentioned. (1) Excessive loss of water from the lavage fluid into the tissues and circulation can be avoided by adding adequate amounts of dextrose and gelatin to the perfusate. However, if the patient is already edematous, removal of excess tissue fluid is extremely difficult. Perfusion solutions of the hypertonicity required to do this are often irritating to the peritoneum and predispose toward infection. (2) Excessive elevation in the serum phosphate concentration with dan-

gerously low calcium levels often cannot be avoided. To prevent tetany intravenous administration of calcium may be necessary. (3) Control of acidosis may also require parenteral measures. The use of sodium lactate intravenously was necessary in both cases described in the paper.

Dr. Frank cited infection as the most serious complication of peritoneal lavage. The most common organism found was *E. coli*. Rigid aseptic precautions in handling the fluid before use were felt to eliminate the possibility of organisms entering the peritoneal cavity in the perfusate. The predominance of *E. coli* often in pure culture as the infecting organism inveighed against the skin around the tubes as the point of contamination. Dr. Frank and his colleagues concluded that the transfer of organisms from the gut lumen to the peritoneal cavity probably led to the observed peritonitis. Systemic chemotherapy as well as the addition of penicillin or streptomycin to the lavage fluid did not control the infection unless lavage was terminated.

Dr. Benjamin Alexander reported a series of investigations in collaboration with Dr. Andre DeVries of the *Clotting Defect of Hemophilia*. His closely reasoned talk focused on two persistently observed characteristics of clotting reaction in hemophiliacs. The first, described originally by Sahli, is the marked reduction in clotting time upon addition of minute amounts of normal plasma. Dr. Alexander emphasized that even after the addition of normal plasma, hemophilic blood clots slightly but consistently slower than normal blood. The second fundamental observation is that even after clotting the concentration of prothrombin in the hemophilic serum is often as high as it was in the plasma before clotting. This is in marked contrast to normal blood in which the prothrombin concentration falls from 93% of the usually observed value before clotting to 8% after clotting. Consideration of these facts in relation to the human reaction sequence in blood coagulation led to examination of the thromboplastin of the hemophilic. It was found that addi-

tion of normal plasma or of thromboplastin sufficient to induce a relatively normal clotting time did not result in normal prothrombin consumption during clotting of the mixture. In these respects clotting was still abnormal. Interest then turned to the prothrombin per se. Dr. Alexander presented data to show that a mixture of normal serum and normal plasma has a prothrombin activity which is greater than would be expected from simple addition of the prothrombin present in each solution before mixing. He deduced from this observation that a prothrombin activator exists in normal serum. Upon fall of the prothrombin concentration in normal clotting, the evolved activator leads to conversion of most prothrombin to thrombin. Thus normally thrombin evolution during coagulation is speeded by simultaneously evolved prothrombin activator. Dr. Alexander suggested that the lack of sufficient prothrombin activator can explain in part the clotting defect in hemophilia. In reply to a question put by Dr. Davidson during the ensuing discussion, Dr. Alexander stated the thrombin itself was probably not the activator the chemical nature of the substance is not yet known. Further work on this fundamental problem is in progress.

Dr. Mark D. Altschule gave the final paper. He discussed studies on *Blood Carbonic Anhydrase in Man*. His data revealed that in many anemias (eg. those associated with fever or hemorrhage), the carbonic anhydrase activity of the blood is directly proportional to the hematocrit. However, in pernicious anemia and certain refractory anemias the carbonic anhydrase activity per unit red cell mass was increased. Dr. Altschule emphasized the physiological value of an increased carbonic anhydrase concentration in the red cells when the circulation is rapid. The enzyme accelerates approximately 1500 x the rate of conversion of carbon dioxide to carbonic acid. Acceleration of this process may be of some importance in anemias in which blood flow is rapid and time for gas exchange short. Dr. Altschule also mentioned the direct proportionality be-

tween zinc content and carbonic anhydrase activity in the red cell.

MEETING NO. 6

The Harvard Medical Society presented a Symposium on Viruses on March 9 in the Amphitheater of Building D. The program was divided into two parts, an afternoon session from 4:30 to 6:30 and an evening meeting from 8:00 to 10:00. Dr. Monroe D. Eaton presided in the afternoon, Dr. John F. Enders in the evening.

The four papers given before supper were concerned with biochemical aspects of virus diseases. The *Chemical Nature of the Virus Receptors in Red Cells* was discussed by Dr. Max Bovarnick. He reviewed briefly the well described phenomenon of erythrocyte agglutination by viruses. He also described subsequent elution of the virus from the agglutinated red cells. Such eluted virus has lost none of its pathogenic or hemagglutinating prowess. Dr. Bovarnick's investigations were directed toward elucidation of the nature of the bond between red cell and virus. He prepared an extract from red cells which was found to inhibit the hemagglutination reaction. That this extract contained the chemical virus receptors in the red cell was suggested by several lines of evidence. Sheep red cells are not agglutinated by the influenza virus, whereas human red cells are. The extract made from sheep cells had no inhibitor effect. The deduction that the extract contained receptor groups from the red cells which bound the virus, preventing the usual agglutination reaction, was suggested. The fact that virus, when added to the extract, slowly destroyed the inhibitor activity of the preparation also supported this view. The chemical nature of the extract is not well defined. It is a heat stable, non-dialyzable polysaccharide. Further work is in progress.

Dr. John C. Snyder gave the second paper. He discussed *Chemotherapy of Rickettsial Diseases*. He reviewed several drugs of limited potentialities before discussing the action of para-amino benzoic

acid. This compound was shown to shorten the duration of fever, and reduce the incidence of deaths and complications in typhus. Qualitatively similar results but requiring much larger dosage were seen in scrub typhus and Rocky Mountain Spotted Fever. Investigation of the mode of action of this substance on rickettsia led to the information that para-amino benzoic acid inhibits growth of the organism in the chick embryo but does not inactivate or lower the toxicity of the rickettsiae in vitro. The clinical usefulness of the drug is limited by the extremely rapid rate of elimination of p.a.b.a. by the kidney. Conjugation of the drug with glycine to form para-aminohippurate destroyed its rickettsia inhibiting potency. Turning his attention to anti biotics, Dr. Snyder mentioned two recently isolated agents of great promise, chloromycetin and the Lederle substance A377. Both require further study before adequate evaluation of their effectiveness can be made. Penicillin although effective experimentally in rickettsial infections was disappointing in clinical trials. Streptomycin has recently been used with some success in Q fever, according to oral reports from recent outbreaks in California.

Dr. Herbert R. Morgan described *Experiments on Chemotherapy with Agents of the Psittacosis Lymphogranuloma Group*. Dr. Morgan reviewed the classification of organisms in this group. He mentioned that the viruses of this group appeared to be at an organizational level between the bulk of viruses and rickettsia. They are characterized by the ability to form elementary bodies and the possession of a common antigen. These organisms have proven more sensitive to known chemotherapeutic agents such as the sulfanomides than the majority of viruses. Dr. Morgan presented evidence to show that para-amino-benzoic acid inhibited the growth stopping action of sulfonamide. Evidence to prove competitive inhibition of sulfonamide by p.a.b.a. was presented. While pteroyl-glytamic

acid (folic acid) exerted the same sulfonamide-inhibiting action, the doses required are greater and the relation is not competitive. Dr. Morgan inferred from the data that the sulfonamides inhibit growth of viruses in the group by competing with p.a.b.a. in the synthesis of pteroyl-glutamic acid.

The Effect of Measles on the Nephrotic Syndrome was described by Dr. Charles A. Janeway. Dr. Gretchen Hutchins, in the absence of Dr. Janeway, who was ill with a virus infection, read the paper. In seven out of ten nephrotic children given measles a diuresis resulted. Six of these seven showed a marked diuresis. To cause the disease, virus collected from the throat washings of children in the febrile phase of measles was administered intra-nasally to the nephrotics. The responsive patients showed a decrease in albuminuria and an increase in plasma albumin and gamma globulin levels beginning before the diuresis. A decrease in the lymphocyte count was also noted. One patient followed for two and a half years showed no relapse. The other patients treated have been followed for shorter periods, and relapse has occurred after varying periods of time, from a few weeks to six months.

The first paper of the evening session was presented by Dr. John F. Enders. He discussed certain aspects of *Mumps*. Dr. Enders has spoken on this subject frequently of late, notably before the Harvey Society. Borrowing from Lewis Carroll, he aptly expressed his reaction to facing another audience with the rhyme,

"You are old, Father William," the young man said,

"And your hair has become very white;
And yet you incessantly stand on your head—
Do you think, at your age, it is right?"

"In my youth," Father William replied to his son,

I feared I might injure my brain;
But now that I'm perfectly sure I have none,
Why I do it again and again."

Dr. Enders reviewed work done to characterize the mumps virus. He then con-

sidered at some length the immunologic properties of the virus. He pointed out that there are three types of antibodies produced in response to the mumps virus, a virus-neutralizing antibody, an anti-hemagglutinating antibody, and a complement-fixing antibody. The relation between the three is complex. For example, the titer of virus neutralizing antibody does not appear to be correlated with the titer of anti-hemagglutinating antibody. Dr. Enders discussed the complement-fixation test for diagnosis of mumps, emphasizing its importance in accurately characterizing cases of meningo-encephalitis without salivary gland involvement. It has been shown experimentally that the titer of antibodies begins to rise 14 days after inoculation of a subject with the virus, and reaches a maximum about 26 days after inoculation. Dr. Enders also discussed the present status of prophylactic measures against mumps.

Dr. Maxwell Finland discussed *Influenza* in the second paper of the evening. He reviewed work done in his laboratory during three recent epidemics of influenza. Isolation of the viruses responsible for all three epidemics was accomplished with varying ease. Characterization of two antigenetically distinct viruses within the influenza A and B groups was perhaps the most significant result of the work. Such knowledge, Dr. Finland emphasized, is essential before adequate prophylactic vaccines for influenza can be prepared.

Dr. F. Sargent Cheever presented the results of several years of work in *Epidemic Diarrhea of Suckling Mice*. He described the disease, which has been a serious problem to the Harvard Animal Farm for several years, in considerable detail. The age incidence is striking for the disease occurs exclusively in the second and third weeks of life. It is never seen after weaning. No pathogenic bacteria have been found. The severity of the disease varies widely. Mortality rates from 0 to 100 percent have been observed in different outbreaks. Noteworthy in

the pathology of the disease is the presence of intranuclear elementary bodies in the epithelium of the gut. Work on the syndrome was seriously impeded at the critical stage of attempts at isolation of a virus by the death of almost the entire colony of mice. The heating system of the animal farm went awry one night resulting in the hyperthermic death of the colony. Luckily a few animals were kept in another part of the building. Study of these animals and on other strains of mice obtained elsewhere led to characterization of a similar but not identical syndrome. Cytoplasmic rather than nuclear elementary bodies were observed. However, again no pathogenic bacteria were isolated. Attempts at isolation of a virus responsible for this syndrome have also been unsuccessful although the disease may be transmitted by feeding crude suspensions of ground-up intestine to young mice. Of epidemiological interest is the fact that the caretaker of the mice, three months before beginning work here, had been employed at another farm which was also troubled

with epidemic diarrhea since the disease was first recognized some weeks after his arrival. The possibility that he introduced the virus into the Harvard colony was suggested by Dr. Cheever.

Studies on Immunity of Theiler's Virus were described by Robert Rustigan, Ph.D. He reviewed the similarities between the virus of mouse encephalomyelitis or Theiler's virus and human poliomyelitis virus. It is this similarity which gives added significance to the mouse pathogen. Dr. Rustigan discussed his attempts to immunize mice against the disease by multiple sub-infective doses of the virus. Ten of 23 animals so immunized did not contract encephalomyelitis when challenged with an intracerebral injection of the virus. Eight of the 13 animals who did contract the disease eventually died. Twenty-four of twenty-four non-immunized mice were infected by a similar intracerebral injection of virus. It was of interest that the sera of immunized mice showed elevated titers of complement-fixing antibodies as compared with sera from normal animals.

Change in By-Laws

Harvard Medical Alumni Association

Proposed change in the By-Laws.

Article I of the By-Laws reads in part, "The nominee (for the Council) residing in New England who receives the highest vote and the two other nominees receiving the highest votes shall be elected members of the Council for the ensuing three years"

At the council meeting of 15 October, 1947 it was felt that this wording was ambiguous and it was voted that the following proposed amendment to the By-Laws be submitted to the members of the

Association at the Annual meeting in June.

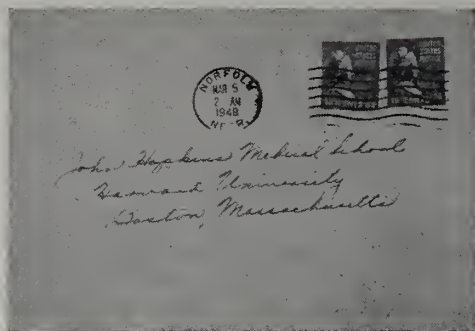
It is moved that the seventh paragraph of Article I of the By-Laws be amended to read—"The nominee residing in New England who receives the highest number of votes, the nominee residing outside of New England receiving the highest number of votes and the nominee irrespective of where he lives who receives the next highest number of votes to either of the first two shall be elected members of the Council for the ensuing three years," etc.

The Stethoscope



Only one reader has queried the spelling of the word at the top of this column. To satisfy his curiosity, it may be said that the spelling is deliberately peculiar because the column itself is so eccentric. —This is the time of year that we begin to collect bouquets of compliments. Lüftu Uzman, HMS '46 and John M. Weller, HMS '43 have been awarded Research Fellowships in Medicine by the American College of Physicians; Louis K. Diamond, HMS '27 in addition to serving as Assistant Professor of Pediatrics and on the Staff of the Children's Hospital, has been loaned to the American Red Cross on a part-time basis as technical director of their national blood-bank program; Mildred F. Jefferson, HMS '51 has been awarded for the second time a full scholarship under the Lt. Hirschel L. Gutman Foundation for the advancement of American ideals; Frederick H. Verhoeff, Professor of Ophthalmic Research *Emeritus* has received the Leslie Dana Gold Medal for contributions to the prevention of blindness; William A. Hinton, HMS '12 has been given honorary life membership in the American Social Hygiene Association and honorary membership in the Board of Directors of the Massachusetts Society for Social Hygiene.—In the way of visitors, F. E. Park, HMS '94 came to see the portrait of H. P. Bowditch, HMS '68 which is now in the Faculty Room. He had some delightful stories of life in the School in the gay nineties. Alberto Hurtado, HMS '24 brought us the latest news from Peru, and John Erskine HMS '45 had a few Japanese adventures to describe. —S. A. Leviné, HMS '11 awarded the Christian Prize this year on Dr. Christian's birthday. It was a pleasant little cere-

mony and the recipient, L. H. Smith, HMS '48 accepted the award with becoming modesty. He came to the School from Washington and Lee University and has made an enviable record as a medical student. He is to have his internship at M.G.H.—As can be seen by the accompanying exhibit, one of the citizens of Norfolk, Nebraska has at last discovered the correct address of the Johns Hopkins Medical School.



We hear that John Rock, HMS '18 and Gracie Allen had a little tiff in California. John suggested at some meeting there that to prevent a declining birth rate and general disintegration we should live a little more like animals and a little less the way we think superior humans should. Gracie did not like this; she replied that if we behaved a little more like human beings and a little less like animals we would get along together better and the world would go ahead faster. She may be right at that.—Just as our first professor of obstetrics was teaching in 1848 so our newest professor of obstetrics is teaching in 1948: Dr. Walter Channing felt that the increasing trend for young mothers to resume normal life shortly after childbirth was unsound; now we hear that Dr. Duncan Reid is advocating less haste in maternal convalescence than was becoming popular a short while ago. As Major Bowes used to say so aptly:

"Round and round she goes
And where she stops—nobody
knows!"

Reunions

ASSOCIATED HARVARD CLUBS

The Associated Harvard Clubs will meet in Philadelphia on May 14, 15, and 16, 1948. On Friday, May 14, graduates of the Medical School will hold a luncheon in the Bellevue-Stratford Hotel. The affair will be open to all graduates of the Medical School and their friends. The Program Committee for the Medical School luncheon, with Edward L. Bortz, M.D. as Chairman, is actively working on the final details of the meeting.

Dr. C. Sidney Burwell, the Dean, and Dr. Eugene Landis, Professor of Physiology, have been invited to be the speakers at the luncheon. Friday evening there will be a symposium which will be presided over by Dr. James B. Conant, President of the University. Authorities of world renown will make up the panel.

As Philadelphia is centrally located on the Atlantic Seaboard, a large representation of the graduates of the Medical School is anticipated.

REUNIONS

1898

Plans are being made to hold a reunion some time this spring.

1908

Reunion is being planned for June 11, 12, 13.

1913

A Reunion dinner will be held at the Harvard Club of Boston on June 5.

1918

A Reunion dinner will be held at the Harvard Club of Boston on June 12.

1923

The Class of 1923 is planning to have a twenty-fifth Reunion on May 21 and 22. The Committee, consisting of Drs. James White, Franklin G. Balch, Jr., Lewis Hurxthal, William Dameshek,

Wyman Richardson and Robert L. Goodale, has arranged a program as follows: *May 21 Morning.* Returning members of the Class will be escorted on a tour of the local hospitals by Class members who are now on the active staff. In the afternoon, the Class will meet at the Massachusetts General Hospital; it is planned to have talks by prominent members of the Class. In the evening, the Class will dine at the Tavern Club.

May 22 Morning. The Class will meet at Harvard Medical School where the Class gift will be presented to Dr. Burwell, the Dean. Following this there will be a few talks by present members of the Faculty following which the Class will be conducted on a tour through the School buildings. A luncheon at Vanderbilt Hall winds up the formal program.

There has been a very fine response from the Class and there is a prospect of a large attendance.

The idea of a gift to the Dean of the School originated a few years ago and is being continued this year by the present twenty-fifth Reunion Class. It consists of a sum of money which will be given to the Dean as an unrestricted fund.

1928

A Reunion Dinner will be held at the Harvard Club on June 5.

1933

A Reunion Dinner will be held at the Harvard Club on June 5.

1938

A Reunion Dinner will be held at the Harvard Club on June 5.

1943—December

A Reunion Dinner will be held at the Harvard Club on May 22.

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Tuition

The following is a letter from Dean Burwell to the students, April 2, 1948:

"I am sorry to notify you that it has become necessary to increase the tuition fee at the Medical School and School of Dental Medicine to \$800 a year beginning with the Fall Term of 1948. This step is taken only after a careful study of our economic condition. No alternative, short of reducing the quality of your education, is open to us.

The necessity for it has arisen because the operating costs of the School have increased so sharply. In the 1946-47 fiscal year operating costs of the program of training for the degree of Doctor of Medicine were \$732,000 higher than in 1941-42 on a comparable basis.

This means that in 1940-41 each student's education cost \$1780 and six years later \$3190. These sums do not include the development of research projects financed by special gifts.

An increasing deficit faced each year for the past few years has used up our reserve funds. The large deficit for the current year is being met by general University funds but there are no such funds

available to supplement the Medical School's endowment income furthermore.

We are making every economy possible short of reducing the quality of our teaching and funds allocated to each Department for the ensuing year have already been diminished to a significant extent. In spite of these economies, however, it still is necessary to raise tuition to meet the expenses of the two Schools.

The School is determined that increased fees shall not act as a barrier to able students. The School will insist on continuing its policy of opening its doors to men from all parts of the country, thus maintaining its national character. To this end plans have been made to use existing loan and scholarship funds to full advantage and additional scholarship funds will be made available.

I am making the announcement to you at the present time to assure you that although the news may be unpleasant, yet it is my sincere hope that it will not affect adversely for reasons of expense the quality of the students who come to the School or their work.

Announcements regarding new policies in regard to the future administration of loan and scholarship funds will be sent you as promptly as possible."

It should be of interest to the graduates that the Harvard Medical Alumni Association has since December 1946 given the School \$9,407.99 for scholarships and fellowships.

Annual Meeting

The Annual Meeting and Dinner will be held during the Annual Session of the American Medical Association. The dinner will be held in Chicago at the University Club on Wednesday, June 23. Further details and reply postal cards will be sent to all graduates early in May.

Correspondence

To the Editor:—

I promised some time ago that I would write to you again and give you some of my impressions of the difference between medical schools on the two sides of the Atlantic but I have been preoccupied working for an exam. I have just failed to get my Final F.R.C.S. again. I had one attempt as a sort of preliminary canter last November and took it again this month in earnest but with no more success. Perhaps some of the Alumni would be interested in how to become a surgeon in England! The sine qua non of a surgeon here is a Fellowship of one of the Royal Colleges preferably the English. I know of one gentleman who is an excellent plastic surgeon especially for children but who was unable to pass this exam and he is now running an Air Taxi Service! The exam is divided into two parts, a Primary and a Final. In order to sit for the primary one has to be a qualified medical practitioner. This is an exam in Anatomy, Physiology and elementary Pathology. It is a great nuisance as it means that one has to go back to the beginning again and learn Gray once more. At the moment the standard is not very high, little more in fact than is required from a preclinical student over here though perhaps more than is demanded in first year at Harvard. The trouble is that it is rather more than the average person can learn while holding down a surgical resident job. This means that one has to take some time off. I was very lucky and took two months off before I was called up into the R.A.F. November 1946 and passed at my first attempt.

The second and final part may be taken any time after the primary has been passed provided that the candidate has been qualified for two years and has done at least one year surgical job resident at an approved hospital. The exam itself consists of a paper and a series of vivas. Perhaps the clearest way of describing it would be to recount my own recent adventures. The paper is divided into two

parts of two questions in each. One morning I was presented with a paper which consisted of two questions; Discuss the prognosis and treatment of carcinoma of the breast. Discuss the management of a case of infantile paralysis. Two hours were allowed. In the afternoon I had to go back for 2 more questions;—Discuss the diagnosis and treatment of umbilical fistulae. (They added as an after thought that they meant sinuses by fistulae). And discuss the pathology of tumours of the long bones. (They told us to read neoplasiae and not swellings for tumours.) Again 2 hours. There were 256 candidates up for the exam and so the orals were spread out over three weeks. Mine were on the Thursday following the paper. The first viva is the Clinical and on entry I was given 15 mins to examine an old gent with osteoarthritis of his right hip, a lipoma over his iliac crest and an old injury to his left elbow. When those 15 mins were over I was ushered to two senior Fellows who were to be my examiners. They asked me what I had found and then we got onto a discussion of osteoarthritis including what the joint would look like at the moment and what limited the movements. I was then asked what I would recommend for treatment. I decided that discretion was the better part and carefully forgot that Smith-Petersen had once generously spent most of a morning showing me the excellent results of his cup arthroplasties. I plumped for a conservative regime since he had no adduction deformity as yet. After 15 mins of this discussion I was conducted rapidly round several short cases. I was asked to look at a man's face. He had a cavernous haemangioma in the right cheek which involved his masseter muscle. I suggested that this might well be left alone as he had had it for 20 years and it was not getting any bigger. They forced me into suggesting methods of treating the thing until I ran out of the usual ones and had to fall back on the injection of boiling water. This seemed

to shake them a bit but as a matter of fact I have seen it used with very good effect at the Children's Hospital. Then I was shown an old man with a hernia in the scar of a transverse incision which had removed his umbilicus. I never did find out what the operation had been for but this man had had an attack of strangulation. I again suggested conservative treatment with a belt as he looked in no fit shape to stand much more operative treatment. However that did not seem to meet with much approval. We had a short discussion about transverse incisions and agreed that they were very good things in some cases. I had three more cases—a woman with 18 months painless enlargement of her left submandibular gland, a woman who had had her nerve to serratus anterior cut at a radical mastectomy 21 years before and a small child with a pathological fracture at the upper end of the humerus due to an osteoclastoma. All this took only another 15 mins so we did not have very much time to think.

Later on that day I had to return for the 'operative' session. This included a 15 min talk about perforations including what the patient looks like, why the pulse may be slow, the differential diagnosis and treatment. Except that I forgot all about the gas which escapes until I was prodded I think that things went quite smoothly. The second examiner took over from there and asked me to perform a prostatectomy on an imaginary patient who was in good condition with a benign hypertrophy. We started with the anaesthetic and argued about that and then I suggested that I would use Millen's method of retropubic prostatectomy but he demurred and so I described the Frever operation. I thought that I had got that pretty well taped as I had learned it up carefully beforehand. Of course never having been on a G.U. service and having little interest in the subject and because the R.A.F. personnel are not of the right age group my experience was limited to the books and to watching

one prostatectomy done by that 'herectical' method of Young at Hopkins. After that half hour I had to go along and look at 3 slides, but having looked down few slides since Dr. Wolbach tried to instill a few of the elements of pathology into my resistant head I rather boomed on these. I called a well differentiated carcinoma of breast a fibroadenoma, an actinomycosis of liver an acute infection thereof and finally a teratoma of testis a mixed parotid tumour. Please don't worry, Harvard; nobody knew I had a course with you.

The final part of the exam took place about an hour and a half later and consisted in being ushered into a room and set in front of two more examiners and shown 'pots' which formed the basis for discussions. I should have said that each of these various sessions are conducted by different pairs of examiners. One pair correct the paper, another gives you the clinical exam, another the operative and finally two pairs give you 15 mins each on the 'pots'. The first pot I was shown was a T.B. kidney and then I was shown an infant's stomach with pyloric stenosis which was right up my street and after discussing every aspect of this the examiner said that he couldn't agree more with all that I had said. The last pot that he showed me was a carcinoma of the rectum. Then I had to go across the room to the second pair and I was shown an intussusception and asked how old I thought the patient was. This set me off on the wrong foot as I did not know how to tell a man's age from a piece of bottled bowel. All they wanted me to say was that it was an adult. We then had a short discussion about the cause of these things and that was followed by the production of a urinary calculus. They discovered that I knew relatively little about the chemistry of these things and so they passed on to another pot which contained, as they afterwards told me a teratoma involving the sacrum of an infant. That was the end of my exam and I then had $\frac{3}{4}$ hour to wait until I was told the result.

The result is given out by a rubicund and rather smooth little man who stands at the bottom of a staircase in the Royal College itself. He calls out the numbers of the candidates who have been having their vivas that day and as you approach he says "I am sorry to have to tell you that you have been referred for—months." Or he may say that you have been elected a fellow in which case you ascend the stairs amid the cheers of the unfortunates who remain below. My fate was to be referred for 3 months, the minimum time, just as I was the last time. I shall have to have another attempt at becoming a surgeon in May. Besides involving a considerable mental strain each attempt at the exam also involves an expenditure of £15:50:0 which rubs holes in the bank balance and salt into the wound.

After the initial result has been told you it is possible to learn in more detail which of our various examiners you failed to get along with. To my horror I found that I was ploughed by the man with whom I had had such a pleasant discussion on Pyloric stenosis and the other two who had grilled me about renal stones. The former was most shattering as it was the only subject in the whole exam on which I really felt I knew my subject. I passed the clinical which is usually reckoned to be the hardest part of the exam merely, I feel sure, because I had a very pleasant and genial fellow to question me. My two companions at this hospital also came down. One of them failed the clinical and the other failed both the clinical and one of the Path vivas. Since they both know just as much clinical surgery as I do, if not more, you can see what we feel about the exam. One of the examiners once told my father that it was 'a very chancy exam.' When one considers that a man's whole career depends upon passing this exam it explains why some people dislike the whole system and feel that it could be improved. At the moment it is possible to get an F.R.C.S. and to be an extremely bad surgeon or to be a very good surgeon and to

be unable to get an F.R.C.S. It has one great merit, of course, and that is that it prevents one from specializing in a particular field of surgery too soon and makes one do some fairly general and wide reading.

I am hoping to be demobbed early in June and have booked a passage for a return visit to America at the end of that month. I shall probably stay for a couple of months and will be making my headquarters in Washington with my in-laws but I hope to tour around and see some of my Harvard friends. Needless to say I shall put my pilgrimage to Harvard high on the list of priorities.

NEVILLE CONNOLLY '44
R.A.F. Hospital
Ely, Cambs.

THE FIRST X-RAY PICTURES TAKEN AT THE M. G. H.

It was very shortly after "mid year" examinations at Harvard Medical, 1896.

Walter Dodd had just received his first Crook's Tube. As there was no suitable current in the hospital, Walter enlisted some of the "boys" to crank the Holtz machine up in the old "Out-Patient" to provide it, successfully operating the fluoroscope and making pictures of hands and wrists. The next morning he showed them to several of the hospital surgeons including Dr. Maurice Richardson, who was greatly impressed. With the fluoroscope Dr. Richardson inspected the bones of his own hand. Then taking out a flat leather pocket book, he held it against the scope. Looking again and seeing only a few coins in it he remarked, "I think that there is more in this than appears." We laughed, thinking at the time he was referring to the purse and the few coins showing in it. As usual, he saw more than we did. Then Walter made a number of exposures for the surgeons while we took turns in cranking the machine.

FRANK T. WOODBURY, '96

